

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Claims 1-8 are pending in the application. Claims 1 and 3 are independent. Claims 1, 3, and 4 have been amended to clarify the claim language in light of the specification and drawings, and not in response to any claim rejections. In particular, Claims 1, 3, and 4 have been amended to delete the lower case letters to correct the minor informality objected to at page 2 of the Office Action.

Applicants note with appreciation that the Examiner has indicated that Claims 3-8 contain allowable subject matter. Claims 3 and 4 have been amended to obviate the objection to these claims, and therefore, each of Claims 3-8 is now believed to be in condition for allowance.

Independent Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,134,250 to Koren in view of U.S. Patent No. 6,324,204 to Deacon. Dependent Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Koren in view of Deacon and in further view of U.S. Patent No. 5,857,040 to Bigo. These rejections are traversed.

As amended, independent Claim 1 recites a multi-wavelength ring laser source (MWRLS), including a pump laser source, an optical amplifier, an optical channel interleaver, an optical output-signal coupler, a polarization controller, and an optical modulator. These components are all optically interconnected as a closed ring to provide the optical output-signal as the laser source.

With respect to Koren, the Office Action correctly identifies that Koren discloses an optical channel switching mechanism 100. The point of this is to select a single channel only to be allowed to propagate around the ring. Thus, the ring is capable of

generating one of a selected plurality of wavelengths. However, due to the switching mechanism being in place, only a single wavelength is generated by the arrangement. Thus, the arrangement taught by Koren is not a multi-wavelength ring laser source as recited in independent Claim 1, but rather it is a wavelength-selectable fiber ring laser.

At page 3 of the Office Action, it is conceded that Koren does not specifically disclose that the optical switching mechanism is an interleaver. However, it is plainly incorrect to equate an interleaver with an optical switching mechanism. Unlike an optical switching mechanism, the optical interleaver of independent Claim 1 is a device used to force the laser to lase at a plurality of wavelength frequencies, preferably the ITU standard frequencies. Forcing a ring laser to lase on more than one channel is a very big technological challenge, one that is not an obvious extension of the single channel ring laser disclosed in Koren.

Furthermore, the additional reference, Deacon, does not teach the use of an interleaver in a ring laser, nor does Deacon disclose a multi-wavelength source. Multiple frequencies are possible, but not simultaneously. The arrangement disclosed in Deacon hops between different frequencies (see, e.g., the abstract). Deacon only teaches the use of an interleaver to deal with the situation where the channel spacing is too tight. By contrast, the function of the optical interleaver of independent Claim 1 is to produce multi-wavelength ring lasing, a completely different function than that disclosed by Deacon.

In addition, the Office Action identifies that Koren discloses an optical modulator 104. However, the optical modulator of Koren does not form part of the closed ring. Rather, it is external to the ring. By contrast, independent Claim 1 recites an optical modulator as one of several components that are optically interconnected as a closed ring. The purpose of this optical interconnectivity is to provide mode locking in the ring.

The three criteria for a *prima facie* case of obviousness will require:

A. That the reference or references when combined show all of the references

cited;

B. That there be a motivation to combine the two references; and

C. That there be an expectation of success.

In the instant case, it can be seen that neither Koren nor Deacon discloses either an interleaver or a modulator in a multi-wavelength ring laser configuration. Accordingly, the combination of these two cited references fails to disclose all of the features recited in independent Claim 1.

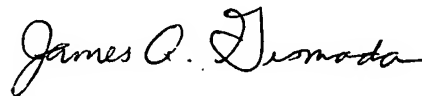
Furthermore, there is no motivation in Deacon or Koren to suggest replacing the optical switch of Koren with an interleaver so as to realize a multi-wavelength laser source, because the interleaver in Deacon is only used to improve channel spacing. The whole point of Koren is to provide a selectable laser ring. Replacing the switch with an interleaver would defeat that purpose. Accordingly, there is no reasonable expectation that combining the teachings of Deacon and Koren would result in multi-wavelength ring laser source as recited in independent Claim 1. Thus, the motivation to combine these references is lacking, and therefore, there is no proper showing of a *prima facie* case of obviousness.

Accordingly, because independent Claim 1 recites the features of an optical interleaver and an optical modulator in a multi-wavelength ring laser configuration, and because none of the cited references disclose these features, Applicants submit that Claim 1 is allowable over the cited references. In addition, dependent Claim 2 depends from independent Claim 1, and therefore, this dependent claim is allowable for the same reasons as described above.

In view of the above amendments and remarks, it is believed that this application is now in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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